

What is claimed is:

1. An infrared heater comprising:
a burner having an inlet for receiving an air and gas mixture and an exhaust for emitting exhaust gases generated by combustion of the air and gas mixture within the burner, an elongated radiant heating tube having an inlet for receiving the exhaust gases emitted by the burner, a gas flow control assembly for controlling the flow of gas to the burner, and a blower for controlling the flow of air to the burner, characterized in that:

the blower comprises a two stage blower having a low speed for delivering a low air flow to the burner and a high speed for delivering a high air flow to the burner.

2. An infrared heater according to claim 1 wherein the blower includes an electric motor having a low winding corresponding to the blower low speed and a high winding corresponding to the blower high speed.

3. A radiant heating system according to claim 1 wherein the gas flow control assembly comprises a two stage gas regulator having a low setting for delivering a low gas flow to the burner and a high setting for delivering a high gas flow to the burner.

4. An infrared heater according to claim 3 wherein the gas flow control assembly includes two valves for controlling gas flow from a source to the burner.

5. An infrared heater according to claim 4 wherein the valves control flow independently through two parallel paths.

6. An infrared heater according to claim 5 wherein the gas flow control assembly receives gas from one inlet supply path and splits the gas flow into two paths corresponding to the two valves.

7. An infrared heater according to claim 6 wherein the two gas flow paths converge back into one flow path after passing through the regulator.

8. An infrared heater according to claim 5 wherein each valve has a first and a second position.

9. An infrared heater according to claim 8 wherein the first and second positions correspond to the valve being 100% closed and 100% open respectively.

10. An infrared heater according to claim 9 wherein each valve is controlled to the second position when the regulator is operating at the high setting.

11. An infrared heater according to claim 10 wherein one valve is controlled to the second position and the other valve is controlled to the first position when the regulator is operating at the low level.

12. An infrared heater according to claim 2 wherein the blower operates at the high speed when the gas regulator is operating at the high setting.

13. An infrared heater according to claim 2 wherein the blower operates at the low speed when the gas regulator is operating at the low setting.

14. An infrared heater comprising:
a burner for receiving and combusting an air and gas mixture to generate exhaust gases;
a radiant heating tube receiving the exhaust gases from the burner and converting the exhaust gases into radiant heat;
a two stage gas flow control assembly operative to deliver gas to the burner at either a low level or a high level; and

a two stage blower operative to deliver air to the burner at either a low level or a high level.

15. An infrared heater according to claim 14 wherein the blower operates at the high level when the gas regulator is operating at the high level and the blower operates at the low level when the gas regulator is operating at the low level.

16. An infrared heater according to claim 14 wherein the gas flow control assembly includes two valves for controlling gas flow from a source to the burner.

17. An infrared heater according to claim 14 wherein the blower includes a motor having a low winding corresponding to the low level blower operation and a high winding corresponding to the high level blower operation.

18. A method of heating a room with an infrared heater of the type including a burner having an inlet for receiving an air and gas mixture and an exhaust for emitting exhaust gases generated by combustion within the burner, and an elongated radiant heating tube having an inlet for receiving the exhaust gases emitted by the burner, the method comprising:

providing a two stage gas regulator having a low setting for delivering a low gas flow to the burner and a high setting for delivering a high gas flow to the burner;

providing a two stage blower having a low speed for delivering a low air flow to the burner and a high speed for delivering a high flow to the burner; and

operating the blower at the low speed when the regulator is operating at the low setting and at the high speed when the regulator is operating at the high setting.

19. A method according to claim 18 wherein the method includes the further steps of:

defining a temperature set point of the room;

- defining a programmed temperature differential;
- monitoring the temperature of the room;
- igniting the burner when the room temperature is less than the temperature set point;
- defining a temperature threshold as the temperature set point minus the temperature differential;
- operating the blower at the high speed and the regulator at the high setting when the room temperature is equal to or below the temperature threshold;
- and
- operating the blower at the low speed and the regulator at the low setting when the room temperature is greater than the temperature threshold and lower than the set point temperature.

20. A method according to claim 20 wherein the regulator has two valves operating in parallel and wherein the method includes the step of opening one valve and closing one valve when the regulator is operating at the low setting and opening both valves when the regulator is operating at the high setting.

21. A method of heating a room with an infrared heater of the type including a burner having an inlet for receiving an air and gas mixture and an exhaust for emitting exhaust gases generated by combustion within the burner, an elongated radiant heating tube having an inlet for receiving the exhaust gases emitted by the burner, a gas flow control assembly for controlling the flow of gas to the burner, and a two stage blower for controlling the flow of air to the burner, the method comprising the steps of:

- defining a temperature set point of the room;
- defining a programmed temperature differential;
- monitoring the temperature of the room;
- igniting the burner when the room temperature is less than the temperature set point;

defining a temperature threshold as the temperature set point minus the temperature differential;

operating the blower at the high level when the room temperature is equal to or below the temperature threshold; and

operating the blower at the low level when the room temperature is greater than the temperature threshold and lower than the set point temperature.

22. A method according to claim 21 wherein the gas flow control assembly is a two stage regulator and wherein the method includes the further step of operating the regulator at a high level when the blower is operating at the high level and operating the regulator at a low level when the blower is operating at a low level.